**MULTIPLICATION OF COMPLEX NUMBERS IN POLAR FORM**

multiply the moduli,

and add the arguments

**Rule**:

**Proof**:

Line 4 to Line 5 uses these Trig Identities to convert the trig expressions:

* cos (A+B) = cos A cos B – sin A sin B
* sin (A+B) = sin A cos B + cos A sin B

**Example**: Calculate .

Leave your answer in polar form.

convert to its principal value(which is within )

**DIVISION OF COMPLEX NUMBERS IN POLAR FORM**

divide the moduli,

and subtract the arguments

**Rule**:

**Proof**: similar to above, multiply the top and bottom of the quotient by the

conjugate of the denominator. Simplify using the trig identities.

**Example**: Calculate . Leave your answer in polar form.

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